

26th World Gas Conference

1 – 5 June 2015, Paris, France



Calling for a Coal-to-Gas Shift in Europe

François-Régis Mouton, Chairman
GasNaturally



Setting the Scene



Perception Challenges for Gas in Europe



« GAS IS EXPENSIVE »

Competitiveness



Security of supply

Sustainability



« WE CANNOT RELY ON
RUSSIAN IMPORTS »

« GAS IS JUST ANOTHER
FOSSIL FUEL »

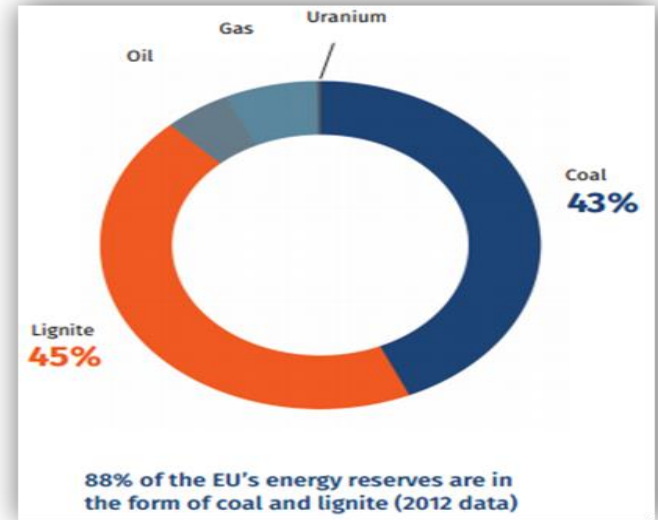


Coal Lobby Communications Strategy

EURACOAL
European Association for Coal and Lignite



Reliability

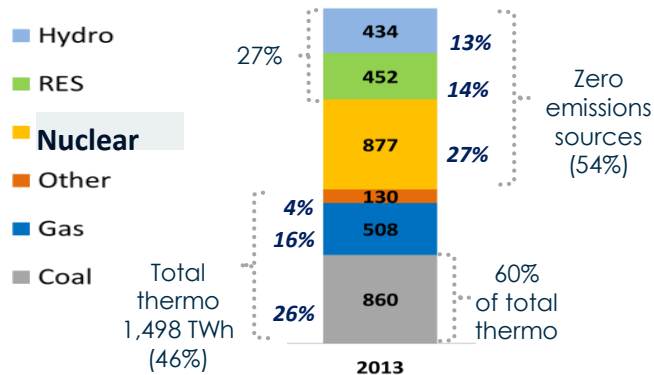


Security of Supply

Power Sector: Europe Goes Black and Green

Power generation mix in 2013 (TWh)*

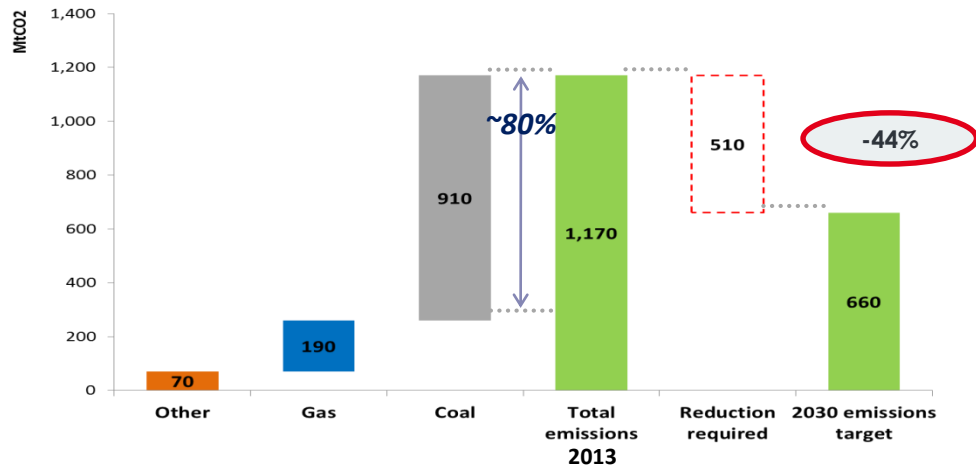
~3,261



*Source: EUROSTAT

** Estimation on the base of Eurostat data

2013 Emissions power sector EU**



Natural gas

400 gCO₂/kWh

Coal

900 gCO₂/kWh

Lignite

1200-1600 gCO₂/kWh

- Coal accounts for 26% of the power production but 80% of the total power sector emissions !
- By switching all coal power plants to gas CCGTs, CO₂ emissions would decrease by 400 million tons in the EU

Our Objectives



Unifying the Gas Supply Chain



GASNATURALLY: ONE VOICE FOR GAS

6 ASSOCIATIONS

275 ENTITIES INCLUDING 150 COMPANIES



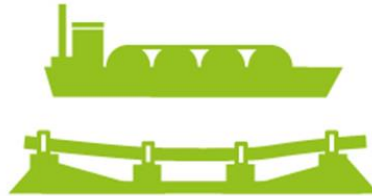
RESEARCH
& DEVELOPMENT



TECHNICAL
LEGISLATION
& STANDARDISATION



EXPLORATION
& PRODUCTION



TRANSMISSION, STORAGE
AND LNG REGASIFICATION



RETAIL AND DISTRIBUTION



Promoting Gas Across Sectors

1

Power Generation

Promote gas in power generation and its role as RES partner

2

Heating

Promote gas as a fast solution to energy efficiency

3

Transport

Exploit the positive image of gas in transport

Partnering with Renewables

Variability
vs.
Flexibility

Getting out
of coal

New power
market
design

Remunerate
/ access to
flexibility

Proposing
joint
solutions

FIGURE 2: SHARE OF NEW POWER CAPACITY INSTALLATIONS IN EU (MW). TOTAL 26,975.5 MW

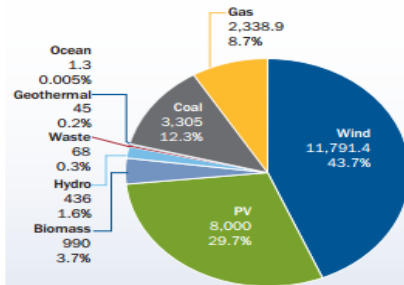
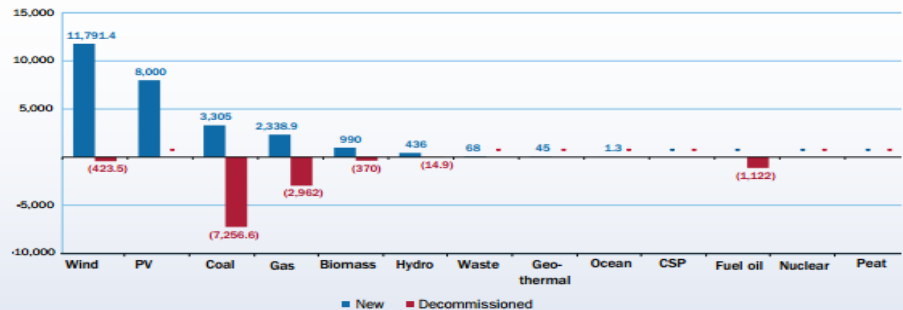


FIGURE 3: NEW INSTALLED CAPACITY AND DECOMMISSIONED CAPACITY (MW)



What we do



Establishing Common Messages

- A clear message to policymakers

Policy Priorities 2014-2019




**GASNATURALLY
POLICY PRIORITIES
//2014-2019**

www.gasnaturally.eu



Letters to Heads of States



Dear Head of State or Government, Dear President of the European Council,

In anticipation of the upcoming discussion at the European Council meeting about energy and climate we would like to share some proposals that address those issues.

We are writing on behalf of GasNaturally, a partnership of six associations representing over 130 companies and national gas associations from all segments of the gas value chain.

Europe seeks a secure energy supply, a competitive economy and a low-carbon energy system. Its measures currently under discussion risk missing these objectives or are even counter-productive, oversteering targets for the 2030 climate and energy framework, the EU would repeat the mistakes a package. Some of the existing proposals concentrate solely on reducing energy imports and, in particular the share of gas in the EU energy mix, thus decreasing diversity and flexibility. Furthermore, this is a question about the EU's commitment to free trade and sends a negative signal to the gas industry, at a time the EU is also seeking investment in new gas infrastructure so that all Member States can enjoy an diverse and reliable gas supply.

The EU needs a consistent 2030 climate and energy policy. For this reason, we recommend the following

1. **Opt for a single legally-binding 2030 greenhouse gas (GHG) emissions reduction target, with role for the Emissions Trading System.** A single target is the most cost-effective way of reducing as it would create predictability for long-term investments in all lower carbon technologies. At the same time, the EU should step up its efforts to reach a global climate agreement in Paris in 2015.
2. **Promote a gas + renewables partnership:** This will reduce Europe's emissions by triggering the much needed switch from coal to gas and renewables in power generation. The results would be better air quality (less SOx, NOx and particulates) and lower CO2 emissions. Gas can also reduce emissions cost-effectively in the heating sector, including to modern gas condensing boilers alone increases efficiency by 20%, compared with the vast majority of boilers in use today. Moreover, it can be used in the transport sector, in particular to help the shipping industry to meet more stringent emissions targets. Last but not least, gas can be renewable itself through the use of biogas injected into our gas networks.
3. **Support efforts to explore and produce more gas in the EU with appropriate environmental regulatory and fiscal policies.** This would boost both conventional and unconventional gas exploration and production and improve the EU's security of supply – which in turn would stimulate industrial development and job creation.
4. **Support R&D to bring promising low-carbon power-to-hydrogen and power-to-gas, to mature renewables to the market, would in**



To: Heads of State and Government of the European Union, President of the European Council

Brussels, 17 March 2014.

Dear President, Dear Prime Minister, Dear President of the European Council,

In view of the upcoming discussion on the 2030 Energy and Climate Framework at the European Council meeting, GasNaturally – a partnership of six associations representing over 130 natural gas companies from all segments of the gas value chain – would like to share with you some of our proposals for a more competitive Europe.

The 2020 policy framework had unintended consequences: long-lasting subsidies for already mature renewable technologies, and high energy prices which have harmed the EU economy and damaged the purchasing power of EU citizens. Subsequently, cheap coal imports have resulted in higher than expected emissions of CO2 and other harmful air pollutants (SOx, NOx and particulates). This new 'coal and renewables paradigm' has offset the benefits of the expanded renewable capacity at a high cost to both the economy and the environment.

Now, you have the opportunity to change the situation.

The EU should first of all opt for a single legally-binding 2030 greenhouse gas emissions reduction target. This would provide predictability for long-term investments in lower carbon technologies – renewables and gas alike – and reduce emissions in the most cost-effective manner. At the same time, the EU should step up its efforts to reach a global climate agreement in Paris in 2015.

Secondly, the ETS should remain the central EU mechanism for cost-effective CO2 emissions reductions. We encourage the Council to reach early agreement on creating the right conditions to allow for a switch from coal to gas in power generation, as well as proportionate measures in the non-ETS sector.

Thirdly, the power system should be redesigned to allow gas and renewables to better partner in electricity generation, helping the completion of the Internal Energy Market. Subsidies for mature renewables should be phased out, while maintaining R&D support for all promising, non-mature lower-carbon technologies, including CCS and power-to-gas.

With these three proposals, the EU can achieve the goals of its medium- and long-term energy and climate policy. Otherwise it will drift away from its objective of a prosperous and sustainable Europe.

We hope, dear President/Prime Minister, that these few points will help take forward the upcoming dialogue.

Yours sincerely,

Francis Legrain
President of European Gas Research Group (ERG)
CEC

Jean-Claude Dupuis
President of Gas Infrastructure Europe (GIE)

B. Kaabe
Secretary General
ERG

David Salzbury
President of European Gas Research Group (ERG)
CEC

Mano Florescu
President of BARGAS
BARGAS

Gordon Burrell
Chairman of Management Committee of GIE
GIE

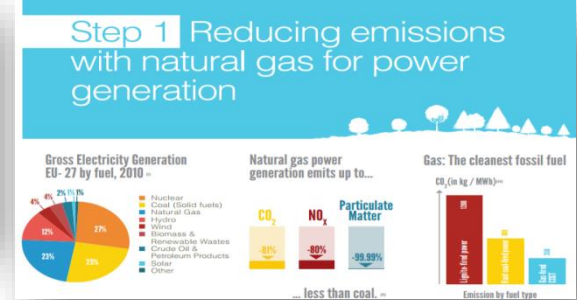
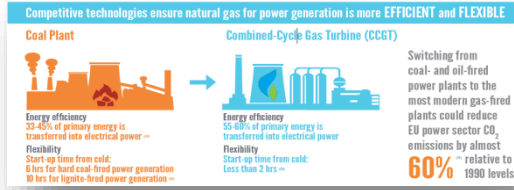
marogaz
DIP

March 2014

October 2014

Producing Communications Materials

- Infographics, videos, animations, fast-fact cards



GASNATURALLY'S POLICY ROADMAP TO 2030



- GasNaturally is confident that with the right policy decisions that allow gas to play its full role in the energy mix, Europe can reach 2030 having satisfied the objectives of security of supply, competitiveness and sustainability.
- The following points should be taken into consideration:
- One single legally binding, economy-wide GHG reduction target for 2030 would provide the predictability needed to make long-term investments in low-carbon technologies.
 - To address the current imbalance between demand and supply in the EU ETS, structural measures should be adopted to reform the ETS and ensure its long-term stability. The ETS is the central instrument for cost-effective GHG reductions achieved in a technology-neutral manner.
 - GasNaturally advocates the phase-out of support schemes for technologically mature renewables, without retroactive effect, and continued technology-neutral support for all promising, non-mature low-carbon technologies.
 - Whilst ensuring a level playing field, the EU should propose policies that enable gas to develop its full potential in reducing GHG emissions cost-efficiently. Such policies should encourage a switch from coal to gas and renewables.
 - GasNaturally advocates a policy framework that supports research and development of all promising, non-mature energy technologies that seek to lower GHG emissions.

Establishing Annual Landmark Events



GasWeek

Member States' Gas Forum



What we achieved



Recognition by Renewables



European Photovoltaic Industry Association

Today it is clear that talking with all technologies that offer flexibility solutions, such as gas, storage, demand response, etc., will be essential to support the development of renewables. Taking a comprehensive approach to the development of Europe's energy system is the only sensible and pragmatic option.

We need more renewables to tackle the climate crisis, including solar and wind energy. Both of these sources are predictable, and these technologies together with flexible sources such as storage, gas, DSM, hydro power and other solutions, complement each other well and offer a solution for low carbon energy production now.



European Wind Energy Association

It is no secret that in the short to medium-term gas and renewables together are an essential part of Europe's energy make-up to guarantee security of supply. Moreover, it is important that we take a holistic approach when discussing the future of our energy system. And from a systemic point of view, gas and wind actually complement each other quite well.

Recognition by EU Policymakers



Gas Infrastructure Debate in the European Parliament



MEP Algirdas Saudargas
Commissioner for Climate & Energy: M.A. Cañete
MEP Adina Ioana Valean



Director-General for Energy D. Ristori

Looking Ahead



Momentum against Coal is an opportunity for Gas



Dear Commissioner Miguel Arias Cañete,

We are writing this letter with regards to the policy recommendations of the Final Report from the CC & Directive Public Consultation Evaluation - Support to the review of Directive 2009/31/EC on the geological storage of carbon dioxide.

Specifically, we would like to point your attention to the recommendation calling on the European Commission (EC) to investigate the possible use of Emissions Performance Standards (EPS) under diverse scenarios and its relationship to ETS, as one of the issues for immediate action by the European Commission.

In line with what you have said in the steps the Commission is planning to undertake in order to fulfil its obligations, which is as an outcome of a public consultation process involving over 1200 representing industry, research centres and universities, government and regulators, and consultants from 10 EU countries and European organisations.

It is imperative that the Commission should undertake analysis of Emissions Performance Standards regulatory options for both new and existing coal power stations during the review of the Industrial Emissions Directive in 2016.

CCS is still far from commercial application in Europe despite the influence of the carbon price by the EU Emissions Trading Scheme, and despite the existence of the NER300 fund, which is intended to accelerate the commercialisation of CCS. While it is evident that the utility sector is backed away from CCS, it is also clear that this outcome represents a failure of the framework to date. Back in 2007 the Commission considered (but rejected) regulatory options that have mandated the deployment of CCS from 2020 onwards, in favour of its current approach.

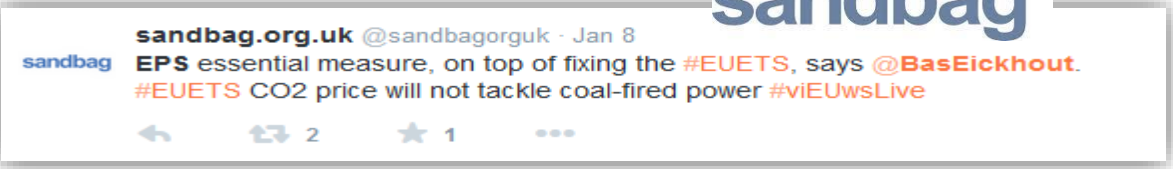
It would remind you that the European Investment Bank has already put in place an Emissions Trading Scheme (ETS) to even accelerate a switch from coal to gas has led the international Energy Agency (IEA) to recommend that Europe should introduce "non-price measures to directly tackle inefficient coal power stations." The IEA has already called in 2013 for limiting of the use of the least-efficient coal-fired power plants. Given this context, we believe that the Commission has a responsibility to reconsider regulatory options that can accelerate the transition to fossil fuels.

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WWF, Climate Action Network...



Members of the European Parliament



GREENPEACE

Opportunities

Renewables integration: need for flexibility in the system

Energy efficiency: conversion of conventional boilers;
gas heat pumps 90% efficient

Shipping: Huge market potential for LNG to meet
low-sulphur standards

Security of Supply: LNG price convergence, diversification
of sources

Clean urban transport: air quality credentials

Promoting Gas in the future energy system



SUPPLY

Europe enjoys varied supplies of gas, with a majority coming from European countries (including Norway). Europe will continue to diversify its gas supplies via new significant sources such as the United States, and in the long term Azerbaijan, East Africa, Eastern Mediterranean, etc. Developing untapped domestic gas resources will reduce Europe's import dependency. Europe's potential to diversify its natural gas supplies will further be realised through deliveries of liquefied natural gas (LNG) from all over the world.

DOMESTIC GAS PRODUCTION



GAS + SOLAR



COMBINED CYCLE GAS TURBINE

Switching from coal- and oil-fired power generation to best performance COGT plants*

-60%
vs. 1990 levels
CO₂ EMISSIONS



INDUSTRIAL PLANT



CO₂



CARBON CAPTURE & STORAGE

GAS & RENEWABLES

Gas-fired power generation is well suited to provide flexible generation to complement variable renewable energy sources as it is capable of rapid response to changes in demand. If the necessary market conditions and policies are in place, the increased use of natural gas for power generation will help the EU achieve considerable emissions reductions by 2030. In such a scenario, gas and renewables will grow together, displacing coal from the fuel mix for power generation.

IMPORTS BY PIPE

Regasification capacity expected to rise in Europe*



LNG

GAS AT THE CENTRE OF OUR ENERGY SYSTEM IN 2030

Biogas can be produced from various sources (biomass, organic waste) and is already injected today into the gas grid.



BIOGAS PLANT

POWER-TO-GAS

LNG TERMINAL

GAS IN TRANSPORT

In the future, natural gas has the potential to play a greater role in transport, in light of lower CO₂ and other emissions. According to industry estimates, LNG heavy-duty vehicles could reach more than 50,000 units per year by 2020. By then, they could represent 10-15% of the market⁷. Today, there are however only 38 filling stations for LNG for heavy-duty vehicles in the EU.⁸ Refuelling infrastructure therefore needs to be developed to allow the technology to grow. There are also interesting prospects for LNG in maritime transport, with a clear environmental case of 25% lower CO₂ emissions and very substantial reductions in emissions of sulphur, nitrogen oxide and particulate matter.⁹



LNG-FUELLED SHIP



LNG can deliver 50% savings for the shipping industry.
February 2013 prices in USD per mmbtu¹⁰



LNG

CNG



GAS STORAGE

INFRASTRUCTURE

The current gas infrastructure can be used for the future energy system without any fundamental modifications beyond 2050. However, further investments will be needed to safeguard secure supplies, provide alternative supply routes and integrate growing variable renewable energy sources. Investments needed by 2020 are estimated around €90 billion for transmission, storage and LNG.² For comparison purposes, it should be noted that the transmission of gas is up to 20 times cheaper than the transmission of energy in the form of electricity.³ Gas storage offers seasonal and short-term flexibility in a fully functioning European gas market, as well as security of supply.

INNOVATION

The priority use of renewable energies in the future will require a very flexible storage of excess electricity since a constant balance between electricity production and consumption is technically needed. The ideal way could be Power-to-Gas, which allows for the storage of renewable electricity in the natural gas grid. Electricity can be converted to hydrogen (H₂) via electrolysis, a proven technology in the chemical industry. The hydrogen produced is either fed directly into the gas grid or turned into methane (CH₄). Finally, by 2030 and beyond, CCS should be an important option to reduce carbon dioxide emissions. The CO₂ captured from power generation or industry can either be stored underground or reinjected into the gas system as synthetic methane, using Power-to-Gas facilities. End-user technologies such as condensing boilers, gas heat pumps, micro-CHP and fuel cells in space heating & cooling are continuously improved by the industry and will make gas use even more efficient in the future.

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François-Régis Mouton, Chairman
GasNaturally

